DEPARTMENT OF THE ARMY
PACIFIC OCEAN DIVISION, CORPS OF ENGINEERS
FORT SHAFTER, HAWAII 96858-5440

REPLY TO
ATTENTION OF

CEPOD-PDC

20 November 2007

MEMORANDUM FOR COMMANDER, ALASKA ENGINEER DISTRICT, ATTN: CEPOA-EN-CW-PF

SUBJECT: Peer Review Plan Approval for the Delong Mountain Terminal, Alaska, Deep Draft Navigation Improvements Study

1. The enclosed Review Plan for the Delong Mountain Terminal, Alaska, Deep Draft Navigation Improvements Study has been prepared in accordance with EC 1105-2-408 and the Director of Civil Works' "Peer Review Process" memorandum dated March 30, 2007.

2. The Review Plan is available for public comment, and the comments received will be incorporated into the Review Plan as appropriate. The Review Plan has been coordinated with the Deep Draft Navigation Planning Center of Expertise of the South Atlantic Division, U.S. Army Corps of Engineers, which is the lead office to execute this Review Plan. The Review Plan does not include external peer review because the scope and technical complexity of the feasibility report are not expected to be novel, controversial or precedent setting.

3. I hereby approve this Review Plan, which is subject to change as study circumstances require, consistent with study development under the Project Management Business Process. Subsequent revisions to this Review Plan or its execution will require new written approval from this office.

4. The point of contact for this Review Plan can be reached at (907) 753-2627.

FOR THE COMMANDER:

Encl

EUGENE M. BAN, P.E.
Director of Programs

PEER REVIEW PLAN

DeLong Mountain Terminal, Alaska
Deep Draft Navigation Improvements
PWI: 013596

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1. Report Being Reviewed
DeLong Mountain Terminal, Alaska, Interim Feasibility Report and Environmental Impact Statement

2. Project Purpose(s)
Deep Draft Navigation

3. Study Scope and Team
In cooperation with the Alaska Industrial Development and Export Authority (AIDEA) and the Alaska Department of Transportation and Public Facilities (DOT&PF), the Alaska District, Corps of Engineers (COE) is conducting a cost-shared feasibility study for potential navigation improvements at the DeLong Mountain Terminal, Alaska. The study has been conducted in accordance with the study authority, the Principals and Guidelines for Water Resources Planning as contained in Engineering Regulation (ER) 1105-2-100, the National Environmental Policy Act (NEPA), and other applicable laws, policies, and procedures. The documents generated by the feasibility study underwent Independent Technical Review (ITR) in accordance with Engineering Circular (EC) 1105-2-408, Peer Review of Decision Documents, prior to its review by the public as a draft report.

The DeLong Mountain Terminal (DMT) serves currently as an export facility for base metal concentrates from the Red Dog Mine, the world's highest production zinc mine, located near Kotzebue, north of the Arctic Circle in Northwestern Alaska. The mine operates year-round, but concentrate export is currently restricted to a short, approximately 100-day, period in the summer, when the Bering Strait and Chukchi Sea are ice-free. Currently, concentrates are lightered in barges from the shore, three to five miles to ocean-going, bulk carriers anchored offshore. Considerable savings might be possible if concentrate could be direct-loaded onto the ocean going vessels. In addition, there is a potential for substantial fuel related savings for the mine and communities throughout the Northwestern Arctic, if the DMT could be used as a fuel transshipment port during the summer. The feasibility study is evaluating potential navigation improvement alternatives. The results of the study will be presented in the Final Interim Feasibility Report (IFR) and an analysis of potential impacts will be presented in the

Environmental Impact Statement (EIS). The Project Delivery Team (PDT) for this study consists of the following disciplines/positions. Other disciplines will be added, if needed.

Project Delivery Team (PDT)	
Project Manager (Corps)	Alaska District, Anchorage, AK
Program Manager (study sponsor)	Alaska Industrial Development and Export
Mining Engineer	Authority, Anchorage, AK
Civil Engineer	Alaska Department of Transportation and Public Facilities, Fairbanks, AK
Sponsor Contractors	Teck Cominco Alaska, Anchorage, AK
Mining-Civil-Cost Engineers	Teck Cominco Limited, Vancouver, B.C.
Civil Engineers	ASCG Corp., Anchorage, AK
Civil Engineers	URS Corp., Anchorage, AK
Mining Engineers	S.T. Foo & Associates, Anchorage, AK
Legal Counsel	Foster,Pepper,Rubini,andReeves,Anchorage,AK,
Civil-Mechanical-Structural Eng	AMEC E&C Services, Vancouver, B.C.
Marine-Structural Engineers	Peratrovich,Nottingham,&Drage,Anchorage,AK
Coastal Engineers	Triton Consultants Limited, Vancouver, B.C.
Air Permitting Specialists	Hoefler Consulting Group, Anchorage, AK
Ice-Structural Engineers	Westmar Consultants, North Vancouver, B.C.
Peer Reviewer	Golder Associates, Burnaby, B.C.
Naval Architects	Peter Hatfield Limited, Vancouver, B.C.
Environmental Specialists	RWJ Consultants, Anchorage, AK
Regional Coordinator	Schaeffer & Associates, Kotzebue, AK
Project Formulator	Alaska District, Anchorage, AK
Hydraulic & Hydrologic Analysis	Alaska District, Anchorage, AK
Coastal Engineers	Coastal Hydraulic Laboratory, Vicksburg, MS
Meteorologist	Oceanweather, Inc., Cos Cob, CT
Coastal Engineer	Tryk Nyman & Hayes, Inc., Anchorage, AK
Ship Pilots	Alaska Pilots, Anchorage, AK
	LA-Long Beach Pilots, Los Angeles, CA
	Tampa Pilots, Tampa, FL
Economic Analysis	Alaska District, Anchorage, AK
Economist	Institute for Water Resources, Ft. Belvoir, VA
Economist	Consulting Economist, Beaverton, OR
Fuel Analyst	Vintage Marketing, Anchorage, AK
Environmental Analysis/NEPA	Alaska District, Anchorage, AK
Biologists	US Fish & Wildlife Service, Anchorage, AK
Environmental Specialists	Tetra Tech, Inc., Seattle WA
	Environmental Protection Agency, Seattle, WA
	National Park Service, Anchorage/Kotzabue,AK
Audiologist	Greenridge Services, Santa Barbara, CA
Chemist	Alaska District, Anchorage AK
Archaeologists	Alaska District, Anchorage, AK
Cost Engineers	Walla Walla District, Walla Walla, WA

Value Engineer/Risk Analyst	Alaska District, Anchorage, AK
Geotechnical Engineers	Alaska District, Anchorage, AK
Real Estate Specialists	Alaska District, Anchorage, AK

The point of contact in the Alaska District for this Peer Review Plan (PRP) is the Plan Formulator, who can be reached at 907-753-2627 or by e-mail at: www.Poa.barrow-sdr@poa02.usace.army.mil.

4. Corps Quality Control and Review

The Alaska District employs a number of internal review processes to ensure the technical and legal quality of the reports it produces. These include reviews by the PDT and Civil Works Branch Section Chiefs.

- PDT Review – As report products are prepared, the PDT reviews the report to check each others work with a particular focus on consistency between documents, technical sufficiency, and editorial correctness. This review is an ongoing effort throughout document development, but there is a comprehensive PDT review once the entire report package is complete. As draft and final reports are near completion, documents undergo an editorial review by a writer/editor to insure consistency in formatting, style, readability, grammar, and other editorial items.
- Section Chiefs Review – The Civil Works Branch Section Chiefs for Project Formulation, Economics, Environmental Resources, and Hydraulics and Hydrology (along with Section Chiefs from other Branches: Geotechnical, Cost Engineering, Real Estate) will each review the draft and final documents to insure consistency with Corps policy, technical accuracy, and other programmatic issues.

The COE also employs a number of review processes to insure policy compliance by the products it produces. The normal study process as outlined in ER 1105-2-100 provides for a number of checkpoints and reviews of documents produced by Corps Districts. The major reviews include: the Feasibility Scoping Meeting (FSM), the Alternative Formulation Briefing (AFB), the draft Report review submittal, the draft final Report submittal, and the Civil Works Review Board (CWRB) presentations, review, and approval, and the final report submittal.

- Feasibility Scoping Meeting (FSM) – The FSM is held early in a feasibility study to bring together the Corps and Sponsor team, Division and Headquarters personnel, resource agencies and stakeholders to agree on the problems and solutions to be studied and the scope of the analysis required.
- Alternative Formulation Briefing (AFB) – The AFB is held when the study is far enough along that the FSM participants can again meet to confirm that the plan formulation and selection process, the tentatively selected plan, and the definition of Federal and non-Federal responsibilities are consistent with applicable laws, executive orders, regulations, and policies.
- Draft Report Review Submittal – At the time the District completes work on a draft report it is reviewed by HQUSACE for policy compliance prior to public release of the draft report to ensure resulting sponsor and public expectations regarding Federal support can be reasonably fulfilled. This event has previously been known as the Feasibility Review Conference (FRC).
- Draft Final Report Review Submittal - After public review of documents is completed,

the District will revise the documents, as appropriate, and submit the draft Final Report and NEPA documents. Although the documents are identified as "final" at this time, they are *"Interim Documents Under Agency Review – Subject to Revision."*

- Civil Works Review Board (CWRB) –The District and division commanders present the study results and recommendations to a Board for report approval. The CWRB is composed of the Director of Civil Works and four other HQUSACE personnel. The CWRB briefing is the corporate checkpoint for determining that the final decision and NEPA documents and the proposed Report of the Chief of Engineers are ready for release for State & Agency (S&A) Review.
- Final Report Submittal – The final District report is reviewed by HQUSACE concurrently with State and Agency review to confirm compliance with and provide a basis for advising the Chief of Engineers about forwarding the recommendations to the ASA(CW), OMB, and ultimately Congress. This results in a Documentation of Review Findings, which includes a summary of the review comments from the State and Agency report review and the final public NEPA review.

5. Model Certification

The planning model certification process has been under development for several years. In July 2007, interim guidance was issued by HQUSACE for the PCX's, which provided protocols for certification of planning models and indicated that the production phase of model certification had begun. There also is a companion program underway to develop a process to document the quality of engineering software. The DMT study has operated under prior guidance that required the ITR review to cover model review as part of the ITR process for both engineering and planning models.

The scope and technical complexity for this feasibility study and report/EIS is not expected to be novel, controversial, or precedent setting, except for its location in the arctic region. The DMT study uses a number of engineering and planning technical models to develop wind and wave information into estimates of storms, winds, waves, currents, sediment transport, vessel operations, and economic conditions without and with improvements. A model is a tool that represents a system to analyze changes in some process. Models are classified as either engineering or planning. Engineering models represent engineering systems, such as hydrologic and hydraulic analyses, geotechnical and structural evaluations, etc. The engineering models used in the DMT study include: the Wave prediction Model (WAM), STeady state spectral WAVE (STWAVE) model, ADvanced CIRCulation (ADCIRC) model, the Short-Term FATE (STFATE) and Long-Term FATE (LTFATE) sediment deposition and transport models, the Ship Bridge Simulator located at the Coastal Hydraulics Laboratory in Vicksburg, MS, and the Atkins Quantitive Wave Analysis System (AQUA) model by Atkins Software of the United Kingdom. Planning models deal with defining problems and opportunities, formulating alternative ways to address problems and opportunities, evaluating effects of alternatives, and selecting a final plan. The planning models used in the study for the economic analysis included: the World Mine Cost Data Exchange mine cost model by the World Mine Cost Data Exchange in Wilmington, DE, the US Bureau of Mines Cost Estimating System (CES), the Corps' Economics Guidance Memorandums on Deep Draft Vessel Operating Costs, and the Dynamic Deep Draft Vessel Simulator developed by AMEC E&C based on *Rockwell Software Arena 6.0* (simulates terminal

operations from onshore storage facilities through to the arrival and departure of concentrate carrying vessels). Most of these are models in common use, but have been adapted for use in arctic conditions by the study team. Other analytical tools, such as simple spreadsheets developed for computation of project benefits and cost allocation will also be utilized, but do not require certification. The use and application of these tools are subject to the independent technical review.

6. Peer Review – Independent Technical Review

Peer Review consisted of Independent Technical Review (ITR) by personnel within and outside the Corps of Engineers. The DMT ITR was managed by a Policy Consultant working for Dawson and Associates in Washington, D.C. under contract through Tetra Tech of Seattle, WA, rather than the Deep Draft Navigation Planning Center of Expertise (DDN-CPX). The ITR was conducted beginning in July 2003. ITR Certification was completed in October 2005. The DDN-PCX in South Atlantic Division (Mobile District) was established in August 2003 and organized by October 2003. Under then applicable guidance, Districts were exempt from involving the DDN-CPX in report review, if the Feasibility Cost Sharing Agreement (FCSA) were signed before May 2005. The FCSA for DMT was originally signed in January 2000, meeting the exemption criteria. However, the preparation of this Peer Review Plan was coordinated with the DDN-CPX. The point of contact in Mobile District for the Deep Draft Navigation PCX can be reached at (251) 694-3840. The following table lists the disciplines and their organizations participating on the ITR Team (ITRT).

Independent Technical Review Team (ITRT)	
ITRT Leader	Tetra Tech, Washington D.C.
Project Formulation and Policy Specialist	Tetra Tech, Washington D.C.
Coastal Hydraulics Engineer	Seattle District, Seattle, WA
Economists	Portland District, Portland, OR GEC, Inc., Roanoke, VA
Environmental/NEPA/Biologist/Cultural	Tetra Tech, Seattle, WA
Cost Engineer	Northwestern Division, Portland, OR
Geotechnical Engineer	Alaska District
Real Estate Specialist	Alaska District

The ITRT used by the DMT study for critical disciplines employed persons from outside the District and outside the COE. Technical ITRT reviewers were personnel at journeyman or senior levels with experience in the major disciplines involved in the study. These reviewers had not been nor would be involved in the day to day decisions and development of the study's work products. Major ITRT personnel were selected from outside Alaska District. Coordination was maintained with representatives of the local sponsor during the ITR. The DMT ITRT reviewed the draft IFR and EIS from July 2003 through October 2005 and provided comments to the PDT, before submittal of the document to Pacific Ocean Division (POD) for approval and processing to USACE higher authority for approval to conduct public review of the draft document. Public review occurred from October 2005 through February 2006.

There may be a second phase of the ITRT review of the final interim FR/EIS before it is

submitted to POD for approval and processing to USACE higher authority, but only if there are significant changes in the draft report as a result of public review of the draft report. Coordination with the DDN-PCX has indicated that the District should proceed using the already selected ITRT to perform this second review, if needed. The estimated cost of the two-phase ITR is $100,000, split between the ITRT and the PDT.

7. Peer Review – External Peer Review

External Peer Review (EPR) by organizations and personnel not affiliated with the Corps of Engineers, such as academia, is utilized in special cases where risk and magnitude of the proposed project are such that a critical examination by qualified personnel is necessary. EPR is also used in cases where information based on novel methods, presents complex challenges for interpretation, contains precedent-setting methods or models, presents conclusions that are likely to change common practices, or is likely to affect policy decisions that have significant impact. The Delong Mountain Terminal study does not appear to meet any of theses criteria. It is anticipated that the project will be developed using application of policies appropriate for deep draft navigation. The potential projects have neither sufficient risk nor are of sufficient magnitude to warrant an EPR.

8. Public Stakeholder/Agency Review

Public, stakeholder, and agency review has occurred and will occur in accord with the NEPA process, which requires specific periods of time be made available for review of findings of the study. The public has had and will have additional opportunities to review the study and will be notified of availability of the final document and public meeting(s). Public meeting(s) have been and may be held in Kotzabue, Kilvina, Point Hope, and Noatak, Alaska, by the PDT. The PDT will accept comments from the public for consideration in the study and preparation of documents. The ITR team will generally not receive public comments, as public comments are used to develop the document the ITR team reviews. State and Federal Agency review of final Corps' reports is required by law and executive order. It solicits any additional comments on the final report from the Washington, D.C. level of Executive Department agencies and the Governor(s) of the State(s) in which the study/project is located.

9. Review Schedule

The schedule for reviews on the DMT study is: (Actual dates shown in **bold**. The study is currently on a "hold' of indefinite duration at the request of the local sponsor, who needs to complete critical coordination with local governments and tribal entities before proceeding)

Feasibility Scoping Meeting	**October 17, 2001**
Alternative Formulation Briefing	**July 7, 2003**
ITR of Draft Interim Feasibility Report & EIS	**July 03-October 05**
Public Review of Draft Interim Feasibility Report & EIS	**October 05-February 06**
Sponsor requests study delay to complete coordination	**January 2007**

ITR of Final Interim Feasibility Report & EIS	if necessary, unscheduled
Draft Final Report Submittal	unscheduled
Civil Works Review Board	unscheduled
Public Review of Final Interim Report & EIS Federal Agency & State Review of Report/EIS	unscheduled
Chief of Engineers Report Signed	unscheduled